REMARKS

Claims 1, 4-11, 13, 14, 19, 22 and 23 are pending and stand rejected under 35 U.S.C. 103(a) as being unpatentable over variously cited references. Applicant respectfully traverses the rejections as set forth below. Claim 23 is amended to correct an informality.

Claims 1, 4-9, 19, and 22-23 stand rejected under 35 U.S.C. 103(a) over Aoyama (US 5921938) in view of Goedeke (US 5904708) and further in view of Karam (US 2003/0161321). Claim 1 is directed to a method including measuring drift of a clock within an implantable medical device wherein calculating the drift includes determining a slope of a divergence between a first timeline defined between a first time and a second time for the clock of the implantable medical device and a second time line defined between a first time and a second time for the reference clock.

Aoyama is directed to a system for synchronizing the time of a clock of an electronic physiological instrument with a remote time base. The difference between a defibrillator/monitor clock time and a reference time is a time correction for updating event data time stamps and for updating the defibrillator/monitor clock (col. 7, line 6-10). As such, Aoyama merely determines a time difference. Contrary to the Examiner's assertion, Aoyama does not calculate a drift. Aoyama determines the time difference at a given time when a request for a device clock time is made. Aoyama makes no suggestion whatsoever for detecting a time difference at a second time for calculating a drift. As indicated in the originally filed specification, drift may cause any individual clock to gain or lose time as compared to the reference clock over an elongated period, usually weeks or months. As such, a time difference between a device clock and reference clock measured at one point in time will be different than a time difference measured at another point in time. Since Aoyama merely determines a time difference at one point in time to determine a time correction,

Aoyama fails to teach, suggest, or imply measuring and calculating a drift. Goedeke does not remedy this deficiency of Aoyama.

Karam relates to characterizing the quality of a computer network path using various metrics and is not related to electronic physiological instruments or implantable medical device systems. Karam indicates some embodiments of the invention will correct for clock drift by tracking the relative clock skew between the sender and receiver over time and adjusting for the slope of the drift. Applicant respectfully traverses the Examiner's assertion that it would have been an obvious matter of design choice to calculate drift in a method similar to that of the combination of Aoyama and Goedeke by calculating the slope of the divergence between the timeline of a clock associated with a device and the timeline of a reference clock in view of the teachings of Karam. Aoyama and Goedeke lack any teaching or suggestion, either singly or combined, of measuring or calculating drift. As such, there is no motivation to combine the references in the manner suggested by the Examiner. For at least this reason, the rejection is improper and should be withdrawn.

The Examiner suggests that using the slope of the divergence between two clock timelines and making frequent corrections using the difference between the two clocks are functionally equivalent ways of synchronizing the clock times. Applicant respectfully traverses. Frequent corrections using the difference between the two clocks requires frequent measurements of the time difference, which may not always be feasible or practical. Furthermore, corrections using a time difference can result in time stamps occurring between such corrections being misaligned with a reference clock due to drift. Accordingly, a method using a time difference to update an event data time stamp is functionally different than a method using a measured drift to update an event data time stamp. Each method will produce different temporal alignment of time stamps with a reference clock when the time stamps occur between time difference corrections. As such, using the slope of the divergence and making frequent time difference

corrections are functionally different methods yielding different results and therefore cannot be interpreted as equivalent.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Morohoshi (US 6219303). Morohoshi relates to a wristwatch that receives time of day information and calculates a time difference between the time of day information and its time data. Morohoshi fails to remedy the deficiency of Aoyama relating to measuring drift as discussed above. For at least this reason, the rejection is improper and should be withdrawn.

Claims 10 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over MacDuff (6041257) in view of Morohoshi. Claim 10 relates to an apparatus for correlating time data from an implantable medical device. MacDuff relates to a method of using a measurement instrument to correct a measurement at a later time to remove error present in the measurement due to inaccuracies in the measuring instrument. As discussed above, Morohoshi relates to a wristwatch that calculates a time difference. Neither MacDuff nor Morohoshi relate to implantable medical devices. Accordingly, neither MacDuff nor Morohoshi, alone or in combination, teach or suggest an apparatus for correlating time data from an implantable medical device. Applicant respectfully asserts the rejection is improper and should be withdrawn.

Claims 10 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Aoyama, Goedeke, and Karam further in view of Morohoshi. As discussed above, Aoyama, Goedeke, and Karam, singly or in combination, fail to render the pending claims obvious. Morohoshi teaches calculating a time difference and does not remedy the deficiency of the cited combination relating to measuring drift. As such, the rejection is improper and should be withdrawn.

Applicant respectfully asserts that the pending claims are in condition for allowance. Withdrawal of the instant rejections and issuance of a Notice of Allowance is respectfully requested. Should any issues remain outstanding the Examiner is urged to telephone the undersigned to expedite prosecution. The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546.

Respectfully submitted,

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